Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the applications.

Listing of Claims:

Claims 1-13 (Canceled).

14. (Currently Amended) A method for making a derivative of hyaluronic acid (HA) , comprising the steps of:

a) forming an activated ester at a carboxylate of a glucuronic acid moiety of hyaluronic acid;

b) substituting at the carbonyl carbon of the activated ester formed in step (a), a side chain comprising a nucleophilic portion and a functional group portion ~~such that the degree of substitution is more than 5%~~; and

c) forming a cross-linked hydrogel from the functional group portion of the hyaluronic acid derivative in solution under physiological conditions wherein the forming of a cross-linked hydrogel is not by photo-cross-linking.

15. (Currently Amended) The method of claim 14, wherein the nucleophilic portion is selected from the group consisting of ~~ammonia,~~ primary amine, and secondary amine.

16. (Currently Amended) The method of claim 14, wherein the functional group portion is selected from the group consisting of active ester, aldehyde, amine, ~~arylazide,~~ hydrazide, maleimide, sulfhydryl, and peptide.

17. (Original) The method of claim 14, wherein step (a) is performed with an active ester selected from the group consisting of a substituted triazole, N-sulfosuccinimide, nitrophenol, partially halogenated phenol, perhalophenol, pentafluorophenol, HOBT, and NHS, by carbodiimide-mediated coupling.

18. (Canceled).

19. (Currently Amended) A method for forming a matrix for a temporary scaffold for tissue repair according to the method of claim 14, wherein a crosslinker is used in step c), and wherein the crosslinker is selected from the group consisting of polyvalent active ester, aldehyde, amine, ~~arylazide,~~ maleimide, and sulfhydryl.

20. (Previously presented) A method for forming a matrix for a temporary scaffold for tissue repair according to the method of claim 14, wherein the HA derivative comprises a peptide substrate for transglutaminase, and wherein the HA derivative is crosslinked using transglutaminase.

21. (Previously presented) The method of claim 14, wherein step (c) is performed in the presence of cells.

22. (Previously presented) The method of claim 14, wherein step (c) is performed in the presence of at least one member selected from the group consisting of growth factors, cytokines, drugs, and bioactive peptides.

23. (Previously presented) The method of claim 22, wherein the bioactive peptide RGD is present.

24. (Previously presented) The method of claim 22, wherein a bioactive peptide is present and is a substrate for transglutaminase.

25. (Previously presented) The method of claim 24, wherein the bioactive peptide APQQEA is present.

26. (Previously presented) The method of claim 24, wherein the growth factor TGF-β or BMP is present.

27. (Previously presented) The method of claim 14, wherein step (c) is performed *in situ* in a patient in need of tissue repair.

28-39. (Canceled).